A1 cont.

igniter comprising an oxygen content of not more than 120 ppm, wherein at least a portion of the igniter facing the spark discharge gap is free from a material of the at least one of the center electrode and the ground electrode.

8. (Amended) A spark plug comprising:

a center electrode;

a ground electrode opposing the center electrode in such a manner as to define a spark discharge gap between the center electrode and the ground electrode; and

A2

an igniter fixed to at least one of the center electrode and the ground electrode in such a manner as to face the spark discharge gap, the igniter being composed of a metallic material whose principal component is one of a platinum and an iridium, the metallic material of the igniter comprising a crystal grain of more than 50 μm in a mean diameter, and comprising an oxygen content of not more than 300 ppm, wherein at least a portion of the igniter facing the spark discharge gap is free from a material of at least one of the center electrode and the ground electrode.

Please add the following new claims:

20. (New) The spark plug as claimed in claim 1, in which at least a portion of the igniter is fixed to the at least one of the center electrode and the ground electrode via a weldment.

A3

21. (New) The spark plug as claimed in claim 8, in which the metallic material of the igniter comprises a crystal grain of not less than 53 μm in a mean diameter.

22. (New) The spark plug as claimed in claim 21, in which at least a portion of the igniter is fixed to the at least one of the center electrode and the ground electrode via a weldment.

23. (New) A method of producing a spark plug, said spark plug comprising:

a center electrode;

a ground electrode opposing the center electrode in such a manner as to define a spark discharge gap between the center electrode and the ground electrode; and

an igniter fixed to at least one of the center electrode and the ground electrode in such a manner as to face the spark discharge gap, the igniter being composed of a metallic material whose principal component is one of a platinum and an iridium, the metallic material of the igniter comprising a crystal grain of more than 50 μm in a mean diameter, and comprising an oxygen content of not more than 300 ppm, wherein at least a portion of the igniter facing the spark discharge gap is free from a material of at least one of the center electrode and the ground electrode,

the method comprising the following sequential steps of:

carrying out a heat treatment on a metallic material chip at a heat treatment temperature of not less than 800°C and not more than a melting point of the metallic material chip, so that a crystal grain of the metallic material chip is more than 50 μm in a mean diameter with the metallic material chip comprising an oxygen content of not more than 300 ppm, the metallic material chip comprising a principal component of one of a platinum and an iridium;

welding the metallic material chip to at least one of a center electrode and a ground electrode; and

forming an igniter based on the metallic material chip.

24. (New) The method as claimed in claim 23; in which the heat treatment of the metallic material chip is carried out in one of a reduced pressure atmosphere and a hydrogen atmosphere, so that the metallic chip is recrystrallized to grow the crystal grain to more than 50 μm in the mean diameter, the mean diameter of the crystal grain of the metallic material chip being defined as a mean value of a maximum interval between a pair of parallel lines which are tangent to an outline of the crystal grain; and in which the metallic material chip comprising the platinum is subjected to a resistance welding while the metallic chip comprising the iridium is subjected to a laser welding.

25. (New) A method of producing a spark plug, said spark plug comprising a center electrode;

a ground electrode opposing the center electrode in such a manner as to define a spark discharge gap between the center electrode and the ground electrode; and

an igniter fixed to at least one of the center electrode and the ground electrode in such a manner as to face the spark discharge gap, the igniter being composed of a metallic material whose principal component is one of a platinum and an iridium, the metallic material of the igniter comprising a crystal grain of more than 50 μm in a mean diameter, and comprising an

oxygen content of not more than 300 ppm, wherein at least a portion of the igniter facing the spark discharge gap is free from a material of at least one of the center electrode and the ground electrode,

the method comprising the following sequential steps of:

welding a metallic material chip to at least one of a center electrode and a ground electrode, the metallic material chip comprising a principal component of one of a platinum and an iridium;

carrying out a heat treatment on the metallic material chip welded to the at least one of the center electrode and the ground electrode at a heat treatment temperature of not less than 800° C and not more than a melting point of the metallic material chip, so that a crystal grain of the metallic material chip is more than 50 μm in a mean diameter with the metallic material chip comprising an oxygen content of not more than 300 ppm; and

forming an igniter based on the metallic material chip.

26. (New) The method as claimed in claim 25; in which the heat treatment of the metallic material chip is carried out in one of a reduced pressure atmosphere and a hydrogen atmosphere, so that the metallic material chip is recrystallized to grow the crystal grain to more than 50 μm in the mean diameter, the mean diameter of the crystal grain of the metallic material chip being defined as a mean value of a maximum interval between a pair of parallel lines which are tangent to an outline of the crystal grain; and in which the metallic material chip comprising

Q3 Cont -

the platinum is subjected to a resistance welding while the metallic chip comprising the iridium is subjected to a laser welding.